

### **AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A computer-implemented method for generating and using a mapping scheme, the method comprising:  
receiving commands from a user, wherein said commands establish a mapping between one or more attributes of an XML document and one or more attributes of a relational database;  
based on said commands, automatically generating a mapping scheme that represents said mapping, wherein said mapping scheme includes at least one of:  
multiple attributes of said XML document mapped to a single attribute of said relational database; and  
multiple attributes of said relational database mapped to a single attribute of said XML document; and  
using said mapping scheme to perform a single transformation that moves said XML document directly into said relational database: (a) without materializing the entire XML document separate from said XML document and said relational database during said transformation, and (b) without creating and storing any representation of said XML document separate from said XML document and said relational database during said transformation;  
wherein the one or more attributes of said relational database correspond to one or more columns in one or more tables in said relational database;  
wherein the method is performed by one or more computing devices.
- 2-3. (Canceled)
4. (Previously Presented) The method of claim 1, wherein said mapping scheme further includes instructions on how to collapse a number of attributes of said XML document into a smaller number of attributes of said relational database.
5. (Previously Presented) The method of claim 1, wherein said mapping scheme further includes instructions on how to expand a number of attributes of said XML document to a greater number of attributes of said relational database.

6. (Previously Presented) The method of claim 1, wherein:  
the step of receiving commands from a user includes receiving user input that specifies a condition, and an action associated with the condition; and  
the method further comprises the steps of:  
performing an operation that includes converting data, based on said mapping scheme, from said XML document to a format associated with said relational database;  
during performance of said operation, performing the steps of:  
determining whether the condition is satisfied; and  
if the condition is satisfied, then performing said action.
7. (Previously Presented) The method of claim 1, wherein:  
the step of receiving commands from a user includes receiving user input that specifies a specific set of instructions; and  
the method further comprises the steps of:  
performing an operation that includes converting data, based on said mapping scheme, from said XML document to a format associated with said relational database; and  
during performance of said operation, executing the specific set of instructions to affect said operation.
8. (Previously Presented) The method of claim 1, wherein:  
the step of receiving commands from a user includes receiving user input that declares a variable to which values can be assigned; and  
the method further comprises the steps of:  
performing an operation that includes converting data, based on said mapping scheme, from said XML document to a format associated with said relational database; and  
during performance of said operation, using said variable.
9. (Previously Presented) The method of claim 1, wherein:

the step of receiving commands from a user includes receiving user input that specifies a precompiled routine; and

the method further comprises the steps of:

performing an operation that includes converting data, based on said mapping scheme, from said XML document to a format associated with said relational database; and

during performance of said operation, calling said precompiled routine to affect said operation.

10. (Previously Presented) The method of claim 1, further comprising:  
reading source data definition that includes information about said one or more attributes of said XML document;  
reading target data definition that includes information about said one or more attributes of said relational database; and  
based on said source data definition and said target data definition, presenting to said user an interface that identifies said one or more attributes of said XML document and said one or more attributes of said relational database;  
wherein said step of receiving commands from said user is performed by receiving said commands through said interface.
11. (Previously Presented) The method of claim 1, wherein said mapping scheme includes instructions on how to collapse a number of hierarchical levels of said XML document into a smaller number of hierarchical levels of said relational database.
12. (Previously Presented) The method of claim 1, wherein said mapping scheme includes instructions on how to expand a number of hierarchical levels of said XML document to a greater number of hierarchical levels of said relational database.
- 13-16. (Canceled)

17. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 1.
- 18-19. (Canceled)
20. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 4.
21. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 5.
22. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 6.
23. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 7.
24. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 8.
25. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 9.

26. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 10.
27. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 11.
28. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 12.
- 29-32. (Canceled)
33. (Previously Presented) The method of claim 1, wherein:  
a plurality of attributes of said XML document are related to each other according to a first hierarchy that includes multiple hierarchical levels;  
a plurality of attributes of said relational database are related to each other according to a second hierarchy that includes multiple hierarchical levels; and  
said commands establish, in said mapping, that a particular hierarchical level of said XML document is mapped to a particular hierarchical level of said relational database, wherein said particular hierarchical level of said XML document is at a different depth, within said first hierarchy, than the depth of said particular hierarchal level of said relational database within said second hierarchy.
34. (Previously Presented) The method of claim 1, wherein said single transformation is performed by executing commands defined in a programming language that supports operations to fetch said XML document directly and store said XML document directly into said relational database.
35. (Previously Presented) The method of claim 1, wherein:

said mapping scheme includes instructions which define that operations included in said single transformation are grouped to represent a transaction; and using said mapping scheme to perform said single transformation further comprises performing said operations in said transaction.

36. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 33.
37. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 34.
38. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 35.
39. (Previously Presented) The method of claim 1, wherein using said mapping scheme to perform said single transformation comprises:  
processing a first XML element of said XML document to move said first XML element from said XML document to said relational database; and  
after processing of said first XML element is completed, processing a second XML element of said XML document to move said second XML element from said XML document to said relational database, wherein said second XML element is different from said first XML element.
40. (Previously Presented) A computer-readable storage medium storing one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in Claim 39.